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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/551,763	02/13/2006	Amina Hamidi	004501-820	4261
21839 7590 11/05/2007 BUCHANAN, INGERSOLL & ROONEY PC POST OFFICE BOX 1404 ALEXANDRIA, VA 22313-1404			EXAMINER NGUYEN, KHIEM D	
			ART UNIT 2823	PAPER NUMBER
			NOTIFICATION DATE 11/05/2007	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/551,763

Applicant(s)

HAMIDI ET AL.

Examiner

Khiem D. Nguyen

Art Unit

2823

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 September 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7 and 8 is/are rejected.
- 7) ☒ Claim(s) 9-12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 October 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>10/03/2005</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicants' election without traverse of Group II, the subject matter of Claims 7-12 in the reply filed on September 04th, 2007 is acknowledged. Claims 1-6 have been canceled by the Applicants.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Preliminary Amendment

3. The preliminary amendment filed on October 03rd, 2005 has been entered.

Oath/Declaration

4. The oath/declaration filed on February 13th, 2006 is acceptable.

Information Disclosure Statement

5. The Information Disclosure Statement filed on October 03rd, 2005 has been considered.

Specification

6. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: Insulated power semiconductor module with reduced partial discharge by disposing a polyimide material in a corner region formed by a first electrically conductive layer and a peripheral region of a electrically insulating substrate and manufacturing method.

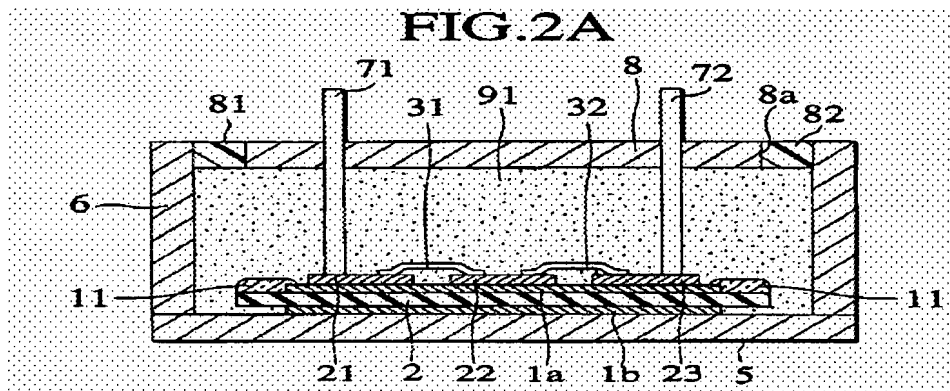
7. Claim 7 is objected to because of the following informalities: In independent claim 7, lines 6-7, replace "electrically conductive layer" with -- first electrically conductive layer --. Appropriate correction is required.

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 7-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Shimizu et al. (U.S. Patent 6,201,696).

In re claim 7, Shimizu et al. disclose a power semiconductor module, comprising:
an electrically insulating substrate **2**; a first electrically conductive layer **1a** disposed on
at least one portion of a top surface of said electrically insulating substrate **2**, so as to
selectively expose at least one peripheral top region of said electrically insulating
substrate **2** (see col. 11, line 56 to col. 12, line 8 and FIG. 2A, for example);



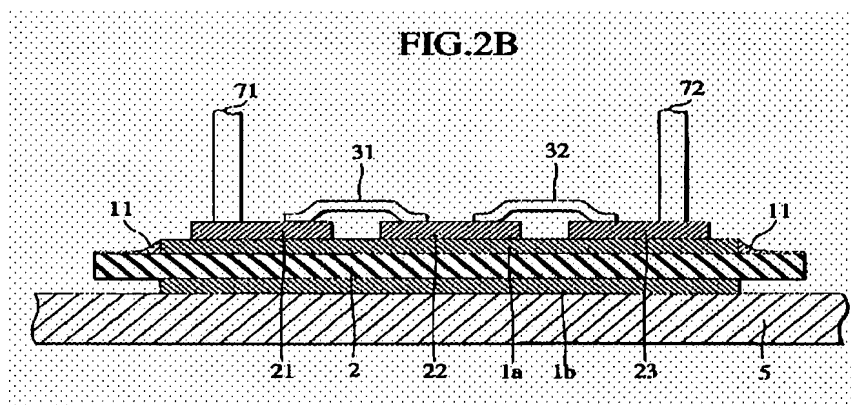
at least one semiconductor power chip **21/23** mounted on said first electrically conductive layer **1a** (see col. 12, lines 6-8);

a first electrically insulating material **11** disposed in a corner region formed by said first electrically conductive layer **1a** and said peripheral region of said electrically insulating substrate **2** ((see col. 12, lines 49-58 and FIG. 2A) and (col. 12, line 63 to col. 13, line 12 and FIG. 2B));

a second insulating material **91** at least partially embedding said semiconductor power chip **21/23**, said electrically insulating substrate **2**, said first electrically conductive layer **1a**, and said first electrically insulating material **11** (col. 11, lines 58-62 and FIG. 2A, for example);

wherein the first electrically insulating material **11** is a polyimide (col. 12, lines 49-58), and

the surface of the first electrically insulating material **11** disposed in the corner region formed by said first electrically conductive layer **1a** and said peripheral region of said electrically insulating substrate **2** is concave-shaped (see col. 12, line 63 to col. 13, line 12 and FIG. 2B, for example).



In re claim 8, as applied to claim 7 above, Shimizu et al. discloses all claimed limitations including the limitation wherein the electrically insulating substrate 2 is mounted on a bottom plate 5 (see col. 12, lines 9-13 and FIG. 2A, for example).

Allowable Subject Matter

10. Claims 9-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Reasons For Allowance

11. The following is an examiner's statement of reasons for allowance:

It is determined that the prior art of record neither anticipates nor renders obvious the claimed subject matter of the instant application as a whole taken alone or in combination, in particular, prior art of record does not teach "a third insulating material is disposed in a second corner formed by the second electrically conductive layer and the peripheral bottom region of the electrically insulating substrate" as recited in claims 9 and 11 and "a rigid layer of resin is provided between the second electrically insulating material and the semiconductor chip, the substrate, the first conductive layer and the first electrically insulating material" as recited in claims 10 and 12.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khiem D. Nguyen whose telephone number is (571) 272-1865. The examiner can normally be reached on Monday-Friday (8:30 AM - 5:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew S. Smith can be reached on (571) 272-1907. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Khiem D. Nguyen/
Examiner, Art Unit 2823

/KN/
October 28, 2007